

February 25, 2019



Dr. Cliff Dahm, Panel Chair
980 Ninth Street, Suite 1500
Sacramento, CA 95814

Dear Chairman Dahm:

The Water Forum appreciates the opportunity to provide the following comments on the report: *"Developing Biological Goals for the Bay-Delta Plan: Concepts and Ideas from an Independent Scientific Advisory Panel."*

The Water Forum is a diverse group of business and agricultural leaders, citizens groups, environmentalists, water managers, and local governments in Sacramento, Placer and El Dorado counties that came together to implement a comprehensive package of linked actions that will achieve two coequal objectives: Provide a reliable and safe water supply for the region's economic health and planned development to the year 2030; and, preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River. Since 2000, the Water Forum has been an example of successful collaboration and consensus to achieve shared outcomes while meeting historically conflicting objectives.

Although your Panel's relatively limited charge was to "provide input and recommendations to the State Water Board on the methods or approaches that should be used to formulate biological goals," we believe that that charge implicitly requires the Panel to consider the interrelationships between potential biological goals and the potential management actions that would be necessary to make progress toward their achievement. We were pleased that your draft report acknowledges and makes multiple references to this important interrelationship, which must be heeded to prevent unintended and negative outcomes impacting the capacity to achieve broader, systemic goals as a result of the pursuit of more narrow and idealized ambitions.

Consequently, we believe it is imperative that the development of biological goals implicating management actions in the American River watershed must take into account and reflect the interdependencies between flow and temperature management that ultimately determine the feasibility of achieving fishery/biological goals within the American River system while also ensuring water supply reliability for a significant proportion of the two million residents of the Sacramento metropolitan region. We appreciate your efforts and those of your colleagues on the Panel. We encourage you to incorporate more definitive language in your report and recommendations emphasizing the relationship between flow and temperature management, particularly in the American River, and the essential need to integrate the two in any analyses and resulting determination of biological goals and the management actions developed to achieve them.

Consistent with the Report's statement that "temperature is a fundamental control variable for all living systems," in the lower American River temperature has long been recognized as the

primary limiting factor to restoration of resident steelhead and fall-run Chinook salmon. The Water Forum has promoted improved water temperature management since its creation and continues to seek improvements in various forums to help ensure water temperatures above the suitable range are minimized to prevent adverse biological impacts on salmonids. By tracking decades of operations history and reviewing hundreds of model simulations to support understanding of the need for improved temperature conditions in the lower American River, the Water Forum has and will continue to advocate for effective temperature management. This is a real-world example reflecting the Panel's recommendations for connecting management actions to the measurement and achievement of biological goals through monitoring and adaptive management.

Notably, water temperature in the lower American River is inextricably linked to storage in Folsom Reservoir, releases from that reservoir, and from the downstream Nimbus Dam. Moreover, the challenges of balancing these three variables is extremely complex. This complexity reflects the following realities: Folsom Reservoir is small relative to the American River watershed's runoff; there are significant M&I water supply and environmental/ habitat management demands on the Lower American River; Reclamation looks to utilization of water stored in Folsom as a "first responder" to address summer and fall Delta water quality regulatory targets; and, overarching all of these considerations, there is a public safety imperative to reserve sufficient flood management storage capacity in Folsom over the winter and early spring to protect the Sacramento region (i.e. often sacrificing water supply storage that in many years may not be recovered in the spring).

The cold-water pool that develops within Folsom Reservoir each spring must be carefully managed to provide cold-water downstream through the summer months to protect juvenile steelhead and through the early Fall to protect spawning fall-run Chinook salmon. Over-release from Folsom in the spring will result in depletion of the cold-water pool and ultimately significant adverse temperature effects to resident salmonids in the lower American River. Favorable species response and positive population effects, i.e. progress in achieving biological goals, for salmonids in the lower American River are only possible if cold-water pool/temperature management is thoroughly integrated with any potential flow requirements that apply to the American River. One cannot be successfully managed without accounting for the other. This is especially critical as water supply and environmental managers are confronted by the need to incorporate a feasible approach to a repeat or multiple dry year scenario that is becoming more worthy of contemplation and planning as a result of the changing climate.

While the Panel's charge was focused on the formulation of biological goals, the above description of temperature management on the American River provides an important caution. The Panel should be explicit in the transmittal of its recommendations that the development and pursuit of biological goals should not negate existing, successful efforts to improve biological conditions by using a tool (e.g. an "unimpaired flow regime") that removes the ability to protect another tool (e.g. "cold water pool") that is critical for managing the "fundamental control variable for all living systems". This is particularly apt on the American River, but clearly applicable to other storage facilities as well.

With respect to the interrelationships between Folsom Reservoir storage, American River streamflows and water temperatures, and conditions for salmonids in the river, the Water Forum documented and included its relevant and extensive technical analyses in sworn testimony before the SWRCB in the California WaterFix hearing in 2018. This testimony included: (1) a biological discussion of both existing conditions for steelhead in the river and risks of potential worsening of those conditions; (2) hydrologic and water-temperature modeling; and (3) biological analyses for salmonids of both water-temperature effects and flow-based physical habitat. The relevant exhibits pertinent to this discussion are Exhibits ARWA-500 through ARWA-908 and are available on the SWRCB's website for the hearing at www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/arwa.html.

All of this testimony emphasizes the point that streamflow, reservoir-storage and water-temperature management must be integrated on the American River in order to support the river's native salmonids, including its population of listed steelhead. Without such integration, the ability to achieve biological goals on the American River, and the beneficial contribution of movement toward those goals as they pertain to related goals in the Delta, will be severely handicapped as, in an environmental management sense, the result will be equivalent to robbing Peter to pay Paul. Instead of such a zero sum scenario, by ensuring that Folsom storage and optimization of its cold water pool to serve temperature management in the Lower American River is integrated with, informs, and appropriately bridges regulatory releases of stored water to provide flows, "unimpaired" or otherwise determined, can progress toward the achievement of biological goals be realized in a sustainable manner.

Thank you for your consideration.

Sincerely,



Tom Gohring
Executive Director